IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): ~~Micro-system intended to receive~~ A micro-system for receiving beads and ~~to obtain~~ obtaining a precise positioning of said beads at preset locations in ~~the~~ said micro-system, ~~characterised in that it comprises~~ comprising:

- a tank ~~(3)~~ that has a cavity ~~(4)~~, said cavity ~~(4)~~ being fitted with blocking elements ~~(5, 15, 25, 35)~~ that allow the beads ~~(2, 12, 22, 32a, 32b)~~ to be ordered and stacked in the interstices ~~(6, 16, 26, 36)~~ between ~~the~~ said blocking elements ~~(5, 15, 25, 35)~~, the interstices ~~(6, 16, 26, 36)~~ constituting said preset locations,

- a cap ~~(7)~~ hermetically sealing ~~the~~ said tank ~~(3)~~,

- and import means ~~(8)~~ and output means ~~(9)~~ allowing a fluid to flow in ~~the~~ said cavity ~~(4)~~.

Claim 2 (Currently Amended): ~~Micro-system~~ The micro-system according to claim 1, ~~characterised in that~~ wherein ~~the~~ said blocking elements ~~(5, 15, 25, 35)~~ consist of columns that are integral with the bottom of ~~the~~ said cavity or ~~the~~ said cap.

Claim 3 (Currently Amended): ~~Micro-system~~ The micro-system according to claim 1, ~~characterised in that,~~ wherein ~~the~~ said beads ~~(2, 12, 22)~~ all ~~having~~ have the same diameter, ~~the~~ and said blocking elements ~~(5, 15, 25)~~ are evenly arranged in a two-dimensional network.

Claim 4 (Currently Amended): ~~Micro-system~~ The micro-system according to claim 1, wherein ~~or 2, characterised in that, the~~ said micro-system ~~(1)~~ having to receive beads ~~(32a,~~

~~32b)~~ of different diameters, ~~the~~ said blocking elements ~~(35)~~ are distributed so as to obtain a positioning of ~~the~~ said beads ~~(32a, 32b)~~ as a function of their diameters.

Claim 5 (Currently Amended): ~~Micro-system~~ The micro-system according to claim 4, ~~characterised in that~~ wherein ~~the~~ said blocking elements ~~(35)~~ are distributed so as to constitute wells intended to receive beads ~~(32a)~~ of a first preset diameter and spaces between the wells intended to receive beads ~~(32b)~~ of a second preset diameter.

Claim 6 (Currently Amended): ~~Micro-system~~ The micro-system according to claim 3, ~~characterised in that~~ wherein ~~the~~ said two-dimensional network is a hexagonal mesh.

Claim 7 (Currently Amended): ~~Micro-system~~ The micro-system according to claim 3, ~~characterised in that~~ wherein ~~the~~ said two-dimensional network is a square mesh.

Claim 8 (Currently Amended): ~~Micro-system~~ The micro-system according to ~~any one of the previous claims characterised in that~~ claim 1, wherein ~~the~~ said blocking elements ~~(5, 15, 25, 35)~~ have a transverse cross-section of a shape selected from among discs, ellipses and polygons.

Claim 9 (Currently Amended): ~~Micro-system~~ The micro-system according to claim 8, ~~characterised in that~~ wherein ~~the~~ said blocking elements ~~(5, 15, 25, 35)~~ have a transverse cross-section in the shape of a hexagon.

Claim 10 (Currently Amended): ~~Micro-system~~ The micro-system according to ~~any one of the previous claims characterised in that~~ claim 1, wherein ~~the~~ said blocking elements ~~(5, 15, 25, 35)~~ are of a height that allows at least two beads to be stacked.

Claim 11 (Currently Amended): ~~Micro-reactor including a~~ A micro-reactor comprising the micro-system according to ~~any one of claims 1, 2, 3, 6 to 10~~ claim 1 and beads ~~(2, 12, 22)~~ of one and the same diameter and with the same function, fitted between ~~the~~ said blocking elements ~~(5, 15, 25)~~.

Claim 12 (Currently Amended): ~~Micro-reactor including a~~ A micro-reactor comprising the micro-system according to ~~any one of claims 1, 2, 3, 6 to 10~~ claim 1 and beads ~~(2, 12, 22)~~, of the same diameter but functionalised differently, fitted between ~~the~~ said blocking elements ~~(5, 15, 25)~~.

Claim 13 (Currently Amended): ~~Micro-reactor including a~~ A micro-reactor comprising the micro-system according to ~~any one of claims 1, 2, 4, 5, 8 to 10~~ claim 1 and beads ~~(32a, 32b)~~, with the same function but of different diameters, fitted between ~~the~~ said blocking elements ~~(5, 15, 25, 35)~~.

Claim 14 (Currently Amended): ~~Micro-reactor including a~~ A micro-reactor comprising the micro-system according to ~~any one of claims 1, 2, 4, 5, 8 to 10~~ claim 1 and beads ~~(32a, 32b)~~, of different diameters and functions, fitted between ~~the~~ said blocking elements ~~(5, 15, 25, 35)~~.

Claim 15 (Currently Amended): ~~Process~~ A process for making ~~a~~ the micro-system according to ~~any one of claims 1 to 10~~ claim 1, ~~said process~~ comprising the following stages:

- forming, by micro-machining a substrate ~~(41)~~, the tank that has ~~the~~ said cavity fitted with ~~the~~ said blocking elements ~~(45)~~,

- supplying a cap ~~(7)~~ intended to seal ~~the~~ said cavity ~~(4)~~ of ~~the~~ said tank ~~(3)~~ hermetically, and

- forming ~~the~~ said fluid import means ~~(8)~~ and said output means ~~(9)~~ by micro-machining ~~the~~ said tank ~~(3)~~ and/or said cap ~~(7)~~.

Claim 16 (Currently Amended): ~~Process~~ The process according to claim 15, wherein ~~the~~ said micro-machining is carried out by a process of dry or wet etching a material.

Claim 17 (Currently Amended): ~~Process~~ The process according to claim 15, wherein ~~the~~ said micro-machining is carried out by impression moulding process.

Claim 18 (Currently Amended): ~~Process~~ The process according to claim 15, wherein ~~the~~ said micro-machining is carried out by photolithography process.

Claim 19 (Currently Amended): ~~Process~~ A process for obtaining the micro-reactor according to claim 11, ~~said process~~ comprising ~~a stage of sedimentation~~ filling ~~with~~ functionalised beads in suspension in a liquid by sedimentation.

Claim 20 (Currently Amended): ~~Process~~ A process for obtaining a multi-functional micro-reactor, ~~by~~ comprising filling the micro-system[[,]] according to claim 3[[,]] with

functionalised beads of one and the same diameter but with different functions, ~~characterised in that said process includes~~ comprising:

- for beads functionalised according to a first function, the following stages:

a) placing a cover on ~~the micro-system~~ said tank ~~(3)~~ leaving accessible the part in which it is wished to place the beads of a first function,

b) filling by sedimentation, and

c) withdrawing ~~the~~ said cover ~~(7)~~,

- for beads functionalised according to another function, the repetition, as many times as there are functions remaining, of stages a) to c) with beads of said other function,

sealing ~~the~~ said tank ~~(3)~~ with ~~the~~ said cap ~~(7)~~.

Claim 21 (Currently Amended): ~~Process~~ A process for obtaining a multi-functional micro-reactor by filling the micro-system, according to ~~one of claims 4 or 5~~ claim 4, with beads the function of which is related to the diameter of said beads, ~~characterised in that said process includes~~ comprising at least two filling stages, the order of ~~the~~ said filling stages corresponding to the decreasing order of the diameter of ~~the~~ said beads.

Claim 22 (Currently Amended): ~~Process~~ A process for implementing a biochemical or biological reaction, ~~wherein~~ comprising flowing a fluid stream ~~is made to flow~~ in ~~a~~ the micro-reactor according to ~~any one of claims 11 to 13~~ claim 11, so that at least one constituent of said fluid stream reacts with ~~the~~ pre-functionalised beads ~~(2, 12, 22, 32a, 32b)~~ able to produce a chemical, electrochemical, biological or biochemical reaction, and at ~~the~~ micro-reactor output(s) a fluid stream is collected that includes ~~the~~ product(s) of said reaction.

Claim 23 (Currently Amended): ~~Process~~ The process according to claim 22, wherein said reaction is a reaction of the substrate enzyme type, said pre-functionalised beads ~~(2, 12, 22, 32a, 32b)~~ able to produce a biological or biochemical reaction are enzymes, said constituent of the fluid stream is a substrate of the enzyme, and ~~the~~ said products of the reaction are ~~the~~ products arising from ~~the~~ reaction of said enzyme with said substrate.

Claim 24 (Currently Amended): ~~Process~~ The process according to claim 22, wherein said reaction is an enzymatic digestion reaction by a protease, said pre-functionalised beads ~~(2, 12, 22, 32a, 32b)~~ able to produce a biological or biochemical reaction are proteases and said constituents of the fluid stream are peptides or proteins and ~~the~~ said products of the reaction are peptidic segments.

Claim 25 (Currently Amended): ~~Process~~ The process according to claim 24, wherein the enzyme is trypsin.